Amendments to the Drawings:

The attached 2 sheets of drawings include changes to Fig. 1, Fig. 18A and Fig. 18B. These sheets, which include Fig. 1, Fig. 18A and Fig. 18B, replace the original sheets including Fig. Fig. 1, Fig. 18A and Fig. 18B.

Attachment: Replacement Sheets (2)

Annotated Sheet Showing Changes (2)

REMARKS/ARGUMENTS

Claims 28-54 are currently pending in this application. Claims 42 and 49 have been amended. The amendments find support in the original specification, claims, and drawings. No new matter has been added. In view of the amendments and remarks that follow, reconsideration and an early indication of allowance of pending claims 28-54 are respectfully requested.

The drawings are objected to under 37 CFR 1.83(a) because they fail to show "a component; a deceleration of the adjustment movement; and adjusting force; a shift register; a logic circuit," as presently claimed in this application.

The claimed "component" is a component in a motor vehicle. FIG. 1 of the drawings shows a window pane 22 which is described in the specification as an exemplary component. (See, English translation of original PCT application (hereinafter "English translation"), p. 15, 1st par.). Accordingly, the drawings already illustrate an example of the claimed "component." Withdrawal of the rejection to the drawings for failing to show a "component" is therefore respectfully requested.

The claimed "deceleration of the adjustment movement" is represented by inputs to an input layer of a neural network. (See, English translation, p. 5, 2nd par.). Such inputs are clearly shown in FIG. 2 of the drawings. Specifically, the inputs are the values that are provided to the input neurons 10 of the input layer 61, and these inputs can represent "deceleration of the adjustment movement." (See, English translation, p. 27, last par.). Such inputs are also shown as S' in FIG. 18A-18B. Applicant therefore respectfully requests withdrawal of the rejection to the drawings for failing to show a "deceleration of the adjustment movement."

The claimed "adjusting force" is represented by an output of an output layer of a neural network. Such an output is also shown in FIG. 2 of the drawings. As shown in FIG. 2, node 12 is a node in an output layer which outputs a value corresponding to the adjusting force. (See, English translation, p. 7, 3rd par.). Applicant therefore respectfully requests withdrawal of the rejection to the drawings for failing to show an "adjusting force."

The drawings have been amended to show a logic circuit 25 in FIG. 1 and shift registers 1201 in FIGS. 18A and 18B as requested by the Examiner. The specification has also been amended as indicated above to include a description of the logic circuit and shift registers. The amendments do not include any new matter. Accordingly, Applicant respectfully requests withdrawal of the rejection to the drawings for failing to show a "shift register" and a "logic circuit."

Claims 16, 37, 40, and 42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Claims 16, 37, 40, and 42 are also rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. Applicant respectfully traverses these rejections.

With regard to the rejection of claims 16 and 37 due to the use of the phrase "a component," Applicant notes that claim 16 has been canceled and claim 37 does not contain the particular phrase. If the Examiner is referring to claim 28, Applicant respectfully submits that the "component" in that claim refers to a component "in a motor vehicle." The specification provides, as an example of such a component, a window pane which is driven by a drive device and can be adjusted in a translatory or rotary fashion. (See, English translation, p. 15, 1st par.). Other examples of the claimed component include a vehicle seat, a sun roof, or any other part which is to be adjusted by a drive device in a motor vehicle. (See, English translation, Abstract, p. 10, 3rd par.). Thus, the recitation of "a component" in claim 28 is supported by the specification and is also clear and definite. Withdrawal of the rejection of claims 16 and 37, or alternatively, claim 28, under 35 U.S.C. 112, first and second paragraphs, is respectfully requested.

With regard to the rejection of claim 40 due to inclusion of the phrase "output values of a shift register for terminal voltages of a drive motor of the drive device," Applicant submits that this phrase also finds support in the specification and is clear and definite. Claim 40 recites possible values that may be contained in an input signal of the input neurons. According to claim 40, these input signals may comprise, for example, output values of a shift register

indicating the voltages at the terminals of a drive motor. According to one embodiment, such voltages may be stored in a shift register and provided via the input signals to the input neurons.

With regard to the phrase "adaptation profile" in claim 40, the specification provides a description of this phrase in various portions of the original application, such as, for example, on page 7, first and third paragraphs and page 27, fourth paragraph to page 32, fourth last paragraph of the English translation. In particular, starting on page 27, fourth paragraph, it is explained with reference to Figs. 13 and 14 that an adaptation network has the function of determining a reference-voltage reference-curve which indicates the instantaneous drive motor behaviour at a predefined reference voltage. As a person of skill in the art would understand, the adaptation period is the motor period for a specific, predefined reference voltage at a given location on a movement path. As a person of skill in the art would also understand, the adaptation profile, in this regard, is the profile of the adaptation periods over the movement path. Thus, Applicant respectfully submits that claim 40 is supported by the specification and is clear and definite. Withdrawal of the rejection of claim 40 under 35 U.S.C. 112, first and second paragraphs is respectfully requested.

With regard to claim 42, claim 42 has been amended to recite that "in the learning phase of the neural network an adaptation period is, after each run, determined anew during operation of the drive device." This amendment is supported, for example, by the description on page 7, first and third paragraphs and page 27, fourth paragraph, of the English translation. Applicant submits that the amendment to claim 42 now overcomes the rejection under 35 U.S.C. 112, first and second paragraphs. Withdrawal of the rejection is therefore respectfully requested.

Claims 28-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khan et al. (U.S. Patent No. 5,828,812) in view of Kliffken et al. (U.S. Patent No. 6,630,808). Applicant respectfully traverses this rejection.

Claim 28 is directed to a "method for monitoring an adjustment movement of a component in a motor vehicle, the component being driven by a drive device and being adjustable in translatory or rotary fashion." The claimed method includes "inputting, at input neurons of an input layer of a neural network, a plurality of input signals being derived from the

drive device and representing a deceleration of the adjustment movement of the drive device." Claim 28 also requires that "the neural network comprises at least one hidden layer having hidden neurons and an output layer having at least one output neuron, said neural network outputting, at the at least one output neuron of the output layer, an output value corresponding to one of an adjusting force, a trapped state and a non-trapped state of the component." None of the cited references teaches or suggests the noted recitations.

Khan et al. disclose a recurrent, neural network-based fuzzy logic system. In this context, Khan et al. teach the general concept of a neural network-based system including a rule base layer and having a recurrent architecture. Khan et al., however, do not teach or suggest the application of a neural network having an input layer, at least one hidden layer and at least one output neuron for monitoring an adjustment movement of a component in a motor vehicle as is claimed in claim 28. Specifically, there is nothing in Khan et al. that teaches or suggests that "a plurality of input signals being derived from a drive device and representing a deceleration of the adjustment movement of the drive device" may be input at input neurons of an input layer of a neural network. Further, Khan et al. do not teach or suggest that a neural network may output at at least one output neuron "an output value corresponding to one of an adjusting force, a trapped state and a non-trapped state of the component."

In fact, the Examiner acknowledges that "Khan et al is silent regarding input signals being derived from the drive device and representing a deceleration of the adjustment movement of the drive device; [where] the adjust value is the adjusting force." (See, Office action, p. 5). However, she relies on Kliffken et al. to make up for the deficiencies in Khan et al.

Kliffken et al. disclose a method for electronically monitoring and controlling a process for moving or positioning at least one window or sun roof of a motor vehicle to provide protection from pinching. Kliffken et al., however, provide an entirely different approach than the approach of the claimed invention, the approach of Kliffken et al. being non-compatible with the general teaching of Khan et al.

Kliffken et al. propose using a model using a set of differential equations for modelling the physical behaviour of a drive. (See, Fig. 1; Col. 4, lines 66 - Col. 5, line 23). Via this model,

Kliffken et al. teach to simulate the adjustment process of the overall system. Thus, using the set of differential equations, a physical description of the adjustment process is used which reflects the adjustment process and is pre-stored in a detection device. (See, Col. 1, lines 50-54). With this, according to Kliffken et al., a greater reliability as well as a much higher sensitivity in speed is to be achieved with a low technical expenditure. (See, Col. 1, lines 43-54).

The neural network-based fuzzy logic system of Khan et al. is not compatible with the approach of Kliffken et al. The physical model of Kliffken et al. using a set of differential equations cannot be used in connection with the neural network-based fuzzy logic system of Khan et al. A person skilled in the art, hence, would not have considered applying teachings for the neural network-based fuzzy logic system as described by Khan et al. to a system as described by Kliffken et al.. While Kliffken et al. use an exact physical description of the adjustment process of the overall system, Khan et al. teach a neural network which, in contrast to Kliffken et al., does not require a complete physical model of the adjustment procedure, but rather uses a self-learning neural network which does not require particular pre-defined physical rules. The approaches of Kliffken et al. and Khan et al., hence, are contrary to each other, such that the person skilled in the art would not have in an obvious manner combined the teachings of Kliffken et al. and Khan et al. Accordingly, claim 28 is in condition for allowance.

Claims 29-54 are also in condition for allowance because they depend on an allowable base claim and for the additional limitations contained in these dependent claims.

In view of the above amendments and remarks, Applicant respectfully requests reconsideration and an early indication of allowance of pending claims 28-54.

Respectfully submitted,
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